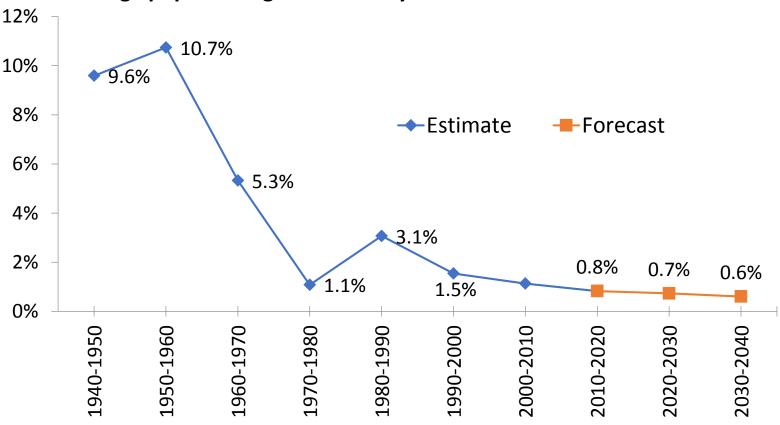
Housing supply

Population/job growth forecasts and demand for housing

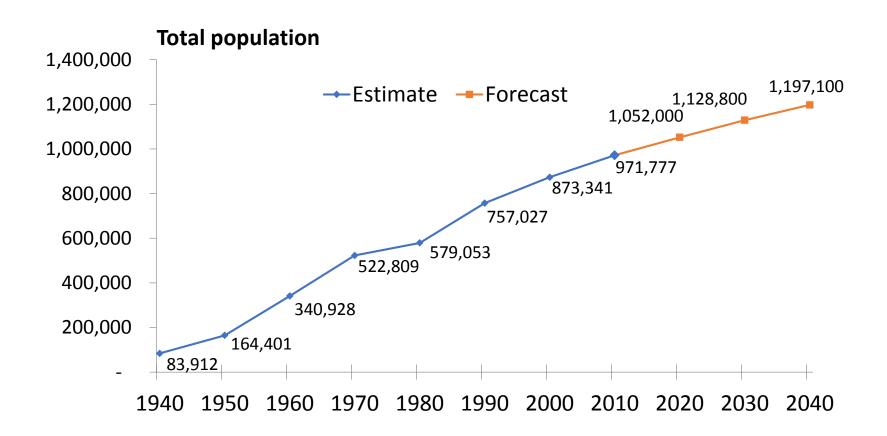
We're growing more slowly -



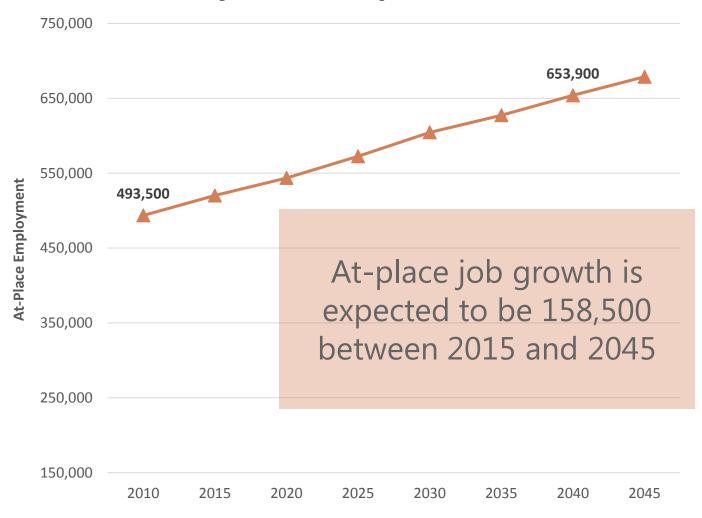


Source: 1940-2010 Decennial Census, U.S. Census Bureau; Metropolitan Washington Council of Government Forecast Round 9.0, Research and Special Projects

- but still growing.



Job growth is likely to be steady but unspectacular -



Source: Metropolitan Washington Council of Government Forecast Round 9.0

- but growth in new jobs plus retirements from "old" jobs drive significant housing demand.

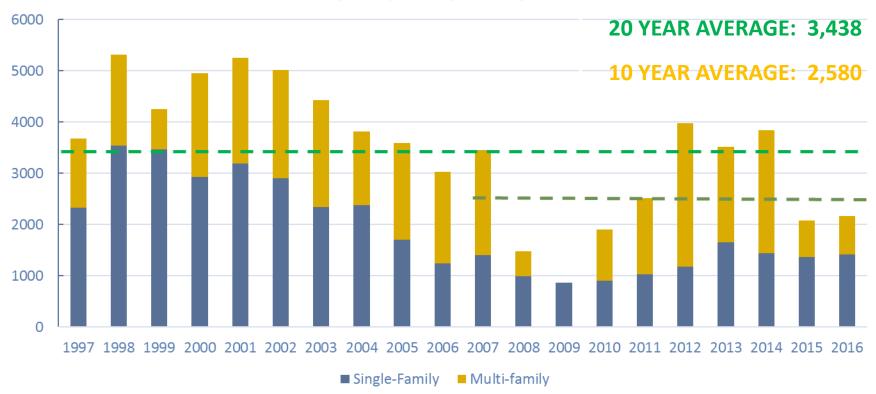
| | 2011-2023 | | | |
|------------------------------|----------------|--|--|--|
| | New Households | | | |
| District of Columbia | 104,370 | | | |
| Suburban Maryland | 151,220 | | | |
| MONTGOMERY | 70,810 | | | |
| Northern Virginia | 214,260 | | | |
| Greater Washington Region | 469,850 | | | |

Note: Assumes all workers are housed in the jurisdiction in which they work, regardless of preferences or availability.

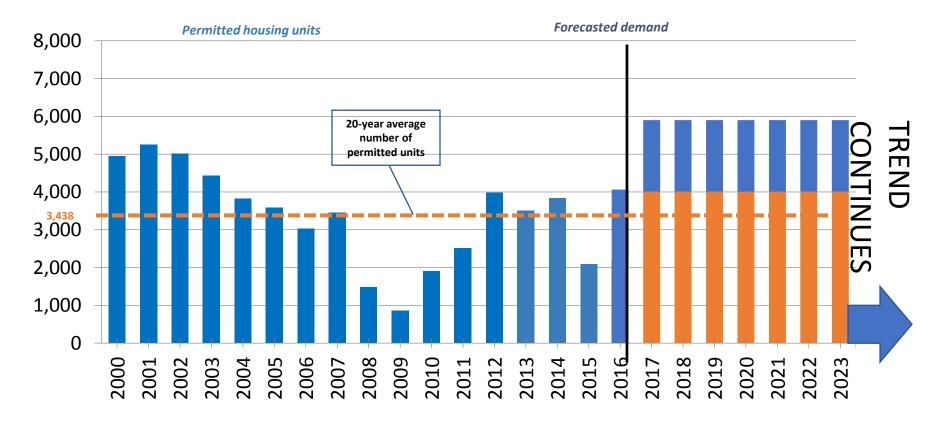
New residential development is anemic -

New Housing Units Reported in Building Permits

Montgomery County Building Permits



- so supply is nowhere near enough to meet demand.



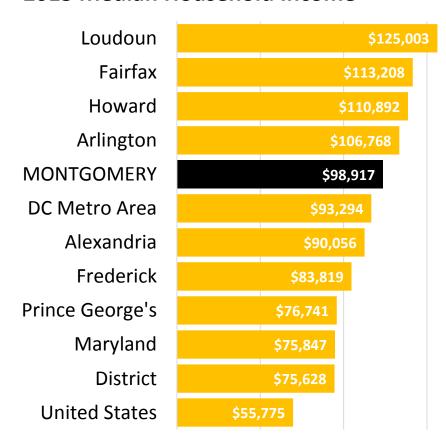
- Additional needed for all workers
- Likely new HHs

Weak wage growth and economic inequality

Demographic and economic change

MoCo remains among the most affluent jurisdictions in the country -

2015 Median Household Income

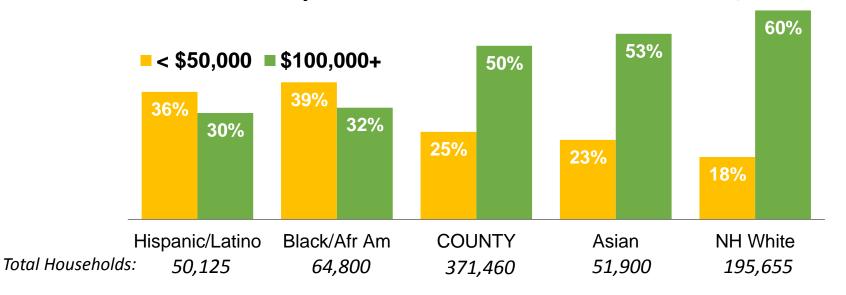


Source: 2015 American Community Survey, 1-year estimate, U.S. Census Bureau; "Income Inequality in U.S. (2013)", Economic Policy Institute, June 2016.

- but income remains unequally distributed.

| 2015 MEDIAN HOU | JSEHOLD | INCOME |
|----------------------|----------------|----------|
| White, not Hispanic | \$122,191 | +/-3,322 |
| Asian | \$105,487 | +/-8,056 |
| COUNTY | \$98,817 | +/-2,749 |
| Black or African Am. | \$63,862 | +/-2,969 |
| Hispanic | \$68,126 | +/-5,039 |

1 in 4 County Households has Income Less than \$50,000

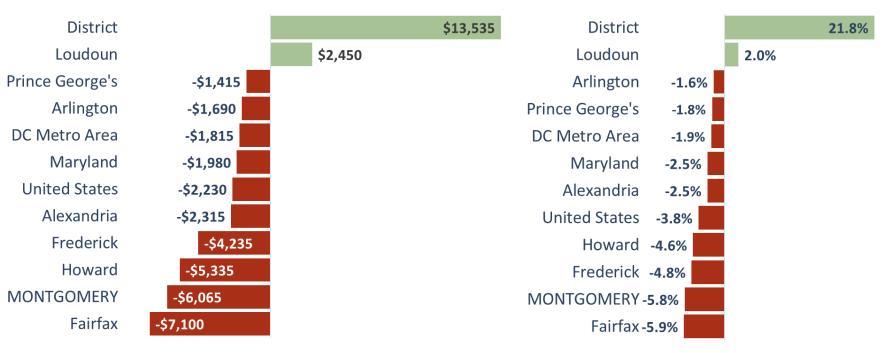


Median incomes remain depressed in the DMV -

Great Recession Dampened Income Growth

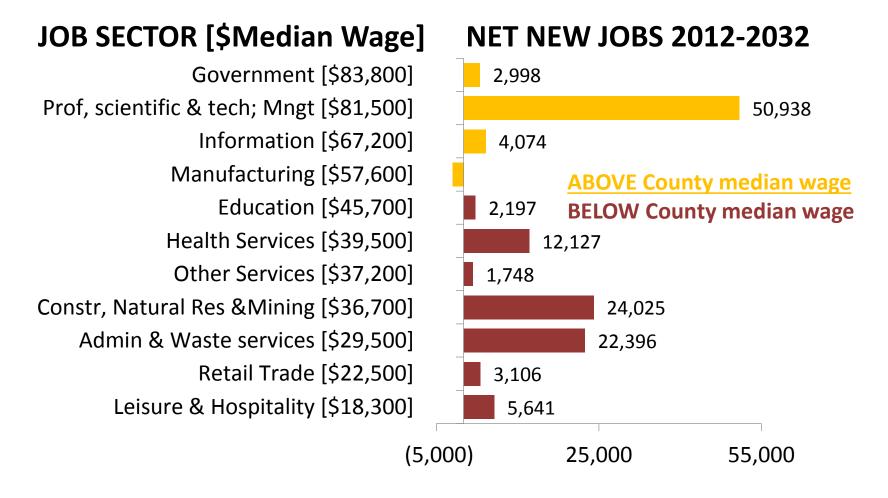
Change in household income 2007- 2015

Percent change in household income 2007-2015



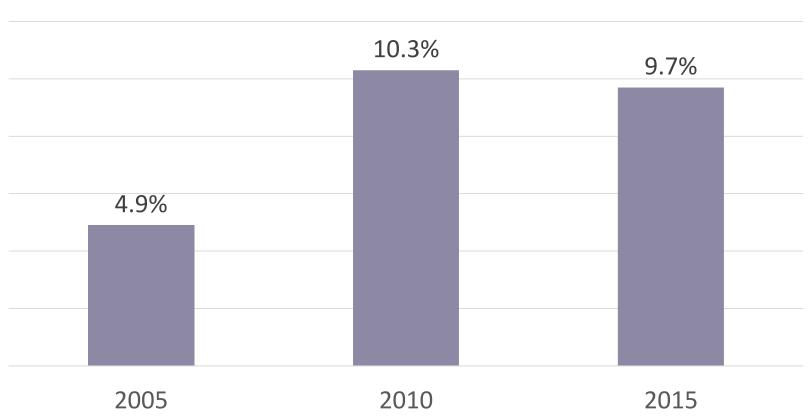
Constant 2015 dollars

- because over half of the forecasted jobs pay less than the median County wage.

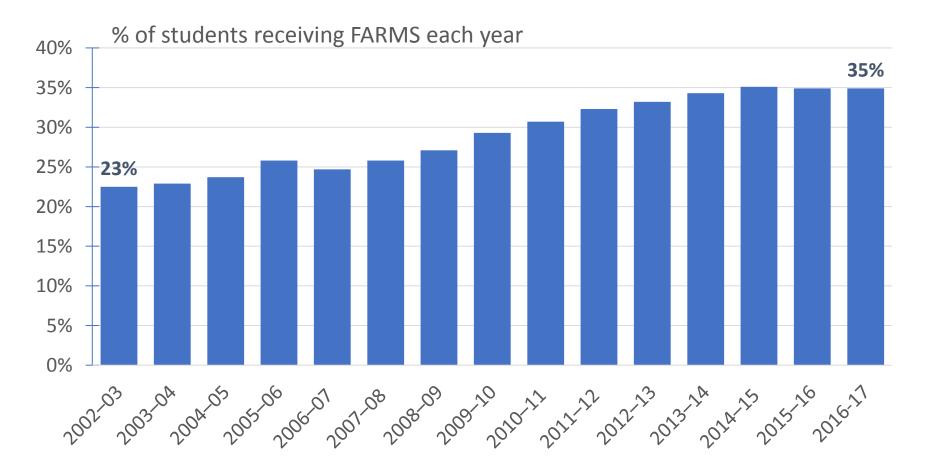


The percentage of school children living below the poverty level has increased since 2005 -

% of school enrollees below the poverty level

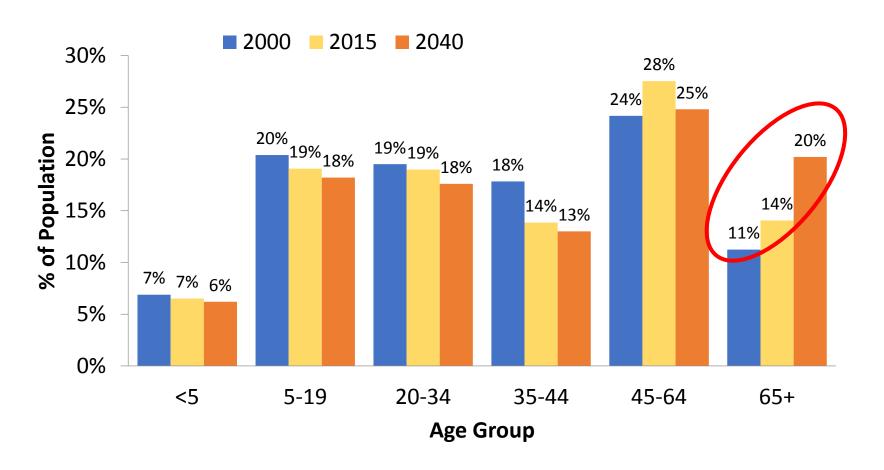


-and an increasing percentage of students receive free and reduced-price meals (FARMS).



Source: Annual Summary Report, Montgomery County Public Schools

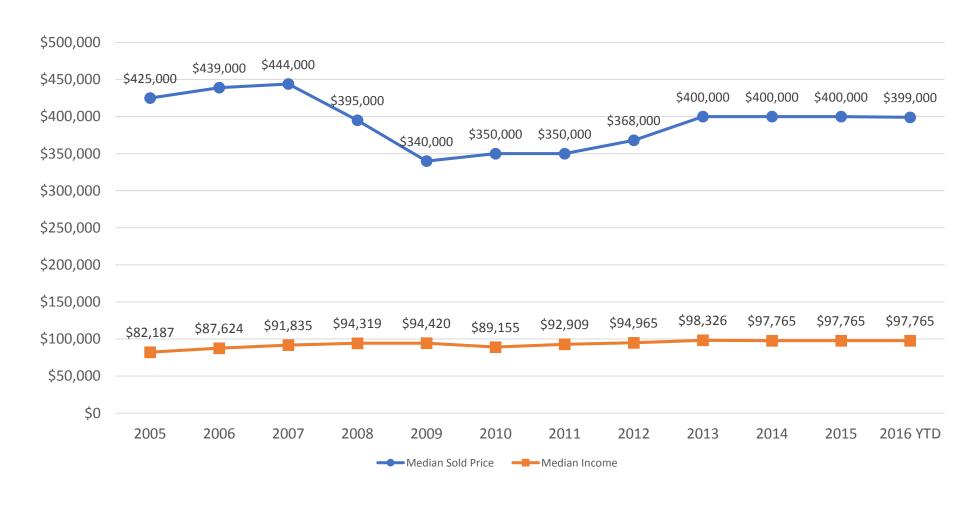
The only age group that will grow as a proportion of our population is 65+.



Source: U.S. Census, 2000 Decennial Census (April estimate); 2015 Annual July Estimate of Population; Maryland Department of Planning Age Forecast (Jan 2015).

15

For-sale housing prices are still down from their pre-recession peak -

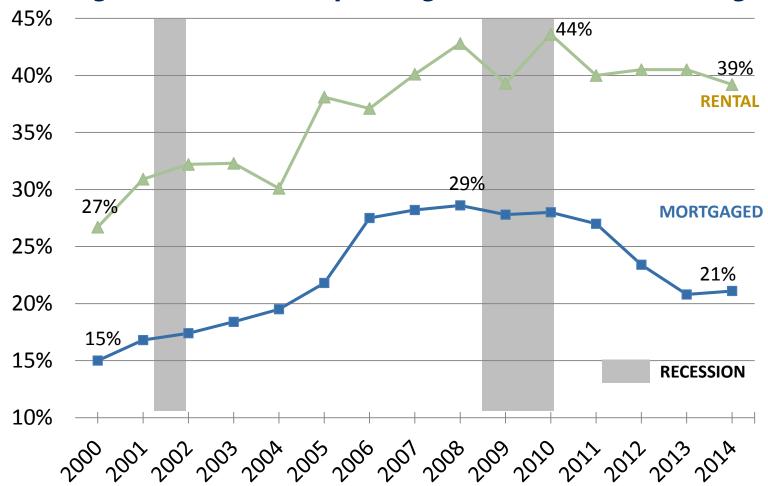


- but current prices are not at levels affordable to new households based on projected income.



Combined with low supply, this is making housing unaffordable.

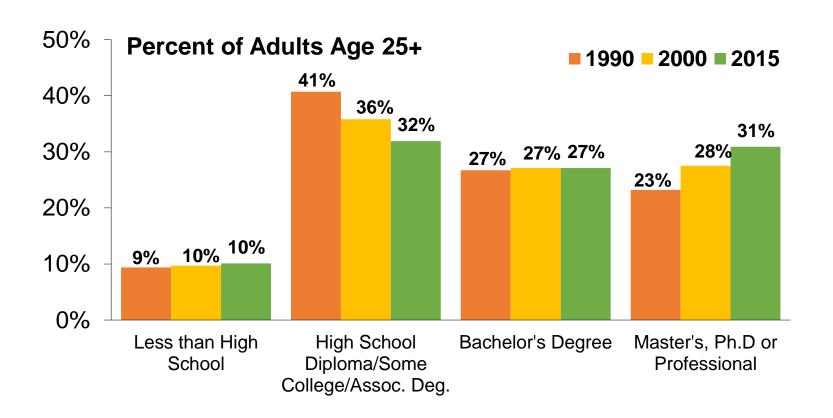
Percentage of Households Spending at least 35% on Housing Costs



Human capital and education

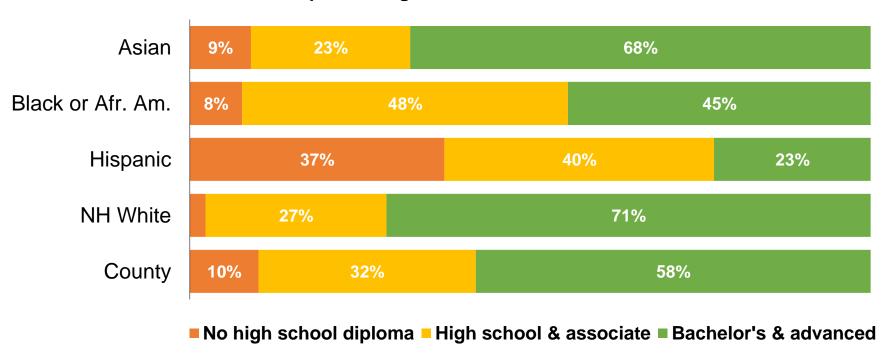
Attracting an educated workforce and maintaining a strong tax base

Education levels continue to rise –



but vary widely by race and ethnicity in the County.

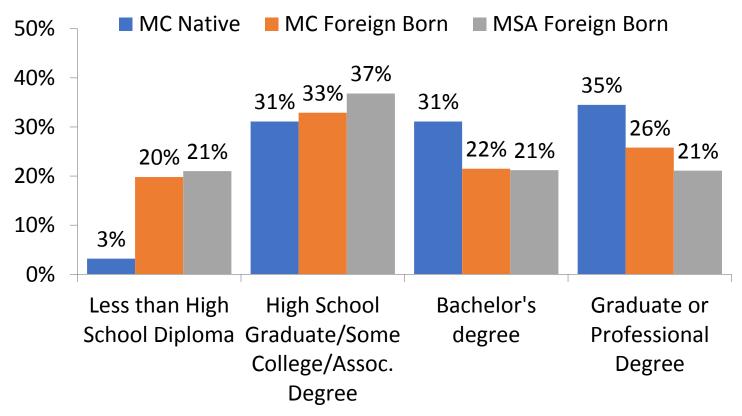
Percent of Population Age 25+



Yet, almost half of foreign born residents have a bachelor's degree or higher.

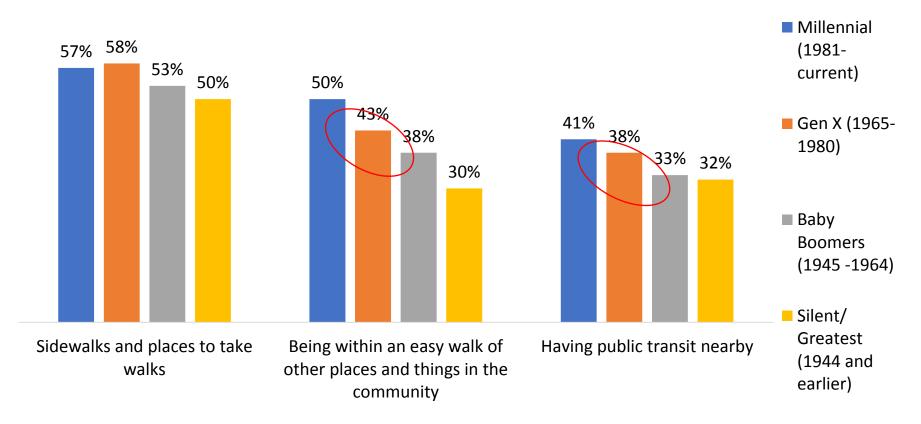
EDUCATIONAL ATTAINMENT OF NATIVE AND FOREIGN BORN (2014)

Percent of Adults Age 25 and Older



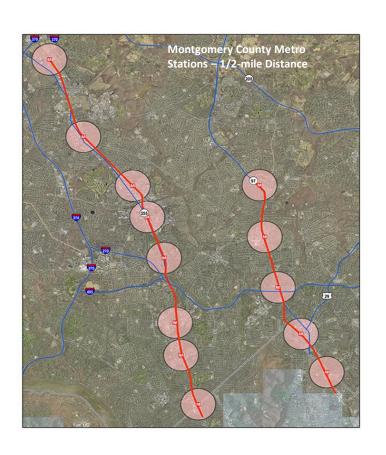
Living preferences are shifting towards walkable, transit rich neighborhoods -

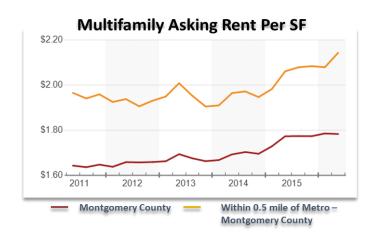
2015 U.S. Living Preferences (% Noting as "Very Important")



Source: 2015 Community and Transportation Preferences Survey, National Association of Realtors

- so Metro-accessible multifamily out-performs the market.





% of County's Multifamily Housing built within Half-Mile of Metro Station



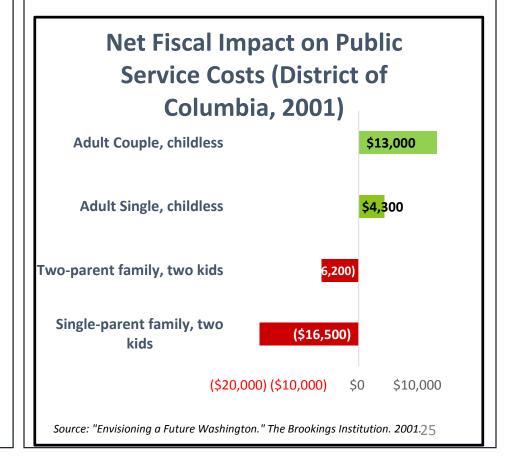
2006 2007 2008 2009 2010 2011 2012 2013 2014 2015 2016

Millennials have a positive fiscal impact -

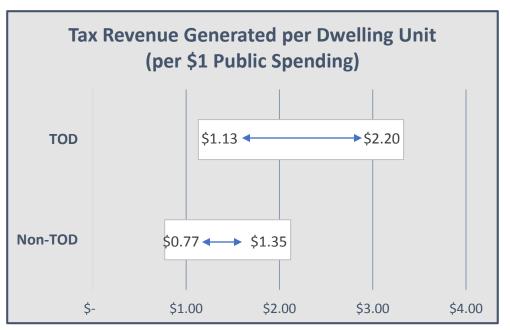
"Roadmap for Growth: A Vision for the City of Philadelphia, 2015-2020." Greater Philadelphia Chamber of Commerce, 2014.

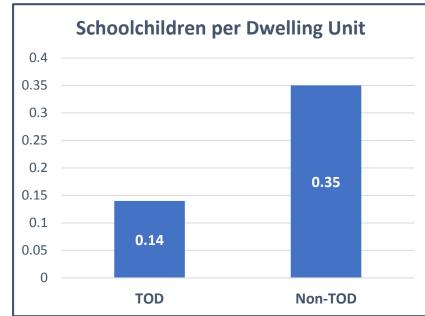
"The large growth in the millennial population is widely considered to be a boost to Philadelphia's economy. If employed, these young residents add to the city's consuming class. They are spending a large portion of their disposable incomes patronizing restaurants, retail stores, and arts and cultural institutions. They pay city taxes — and as compared to aging adults — make fewer demands on city services."

"Envisioning a Future Washington." The Brookings Institution, 2001.



- and TOD generates higher revenue & fewer schoolchildren.





Land use choices and constraints

Where and how can we grow?

Environmental Constraints - Composite

Hydrological:

- Wetland Buffers
- Streams

Erodible soils

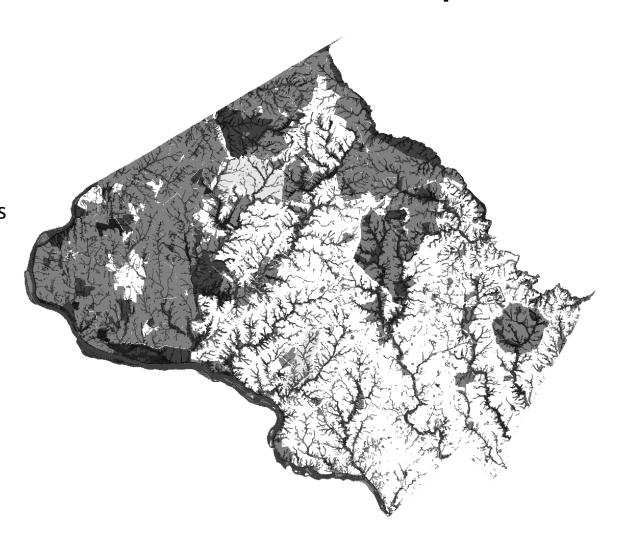
Parks & Biodiversity areas

Agricultural Reserves

Special Protection Areas

Forest Conservation

Easements



Area Constrained = 248,000 Acres 77%

Man-Made Constraints - Composite

29

Utility Sites

- WSSC
- Transmission Lines

Transportation Infrastructure

- Metro
- Rail
- State Roads
- Federal Highways

Government Ownership

Rustic Roads

Public Education

Historic Preservation

Exhausted TDR's

Rock Quarries

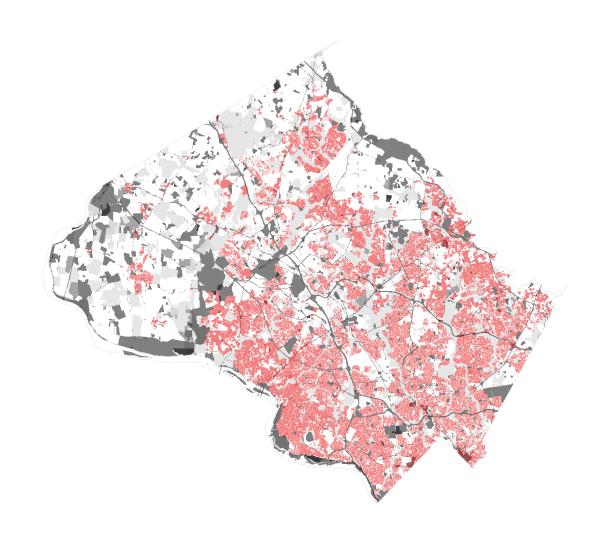
Regulated Affordable

Housing

Private Institutional

Common HOA Ownerships

Single Family Dwellings



Area Constrained = 201,000 Acres 62%

Environmental + Man-Made Constraints

Environmental

Hydrological

- Streams
- Wetland Buffers

Erodible soils

Parks & Biodiversity

areas

Agricultural Reserves

Special Protection

Areas

Forest Conservation

Easements

Man-made

Utility Sites

- WSSC
- Transmission Lines

Transportation Infrastructure

- Metro
- Rail
- State Roads
- Federal Highways

Government Ownership

Rustic Roads

Historic Preservation

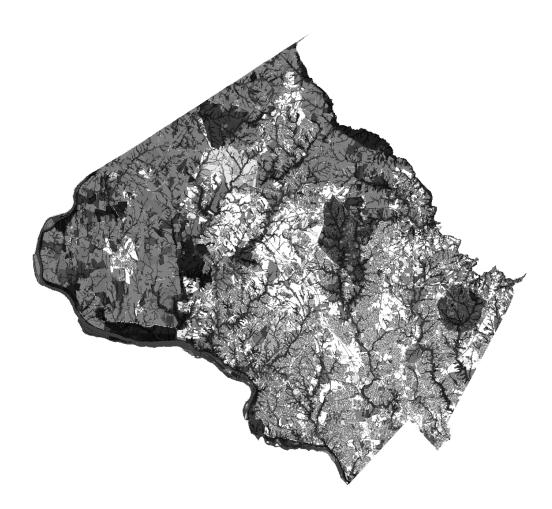
TDR Exhausted

Rock Quarries

Regulated Affordable Housing,

Private Institutional

HOA Common Ownership Single Family Dwellings



Area Constrained = 263,000 Acres 81% Area **NOT** constrained = 61,000 Acres 19%

Environmental & Man-Made Constraints + Qualifiers

Environmental

Hydrological Streams

Wetland Buffers

Erodible soils

Parks & Biodiversity areas **Agricultural Reserves Special Protection Areas Forest Conservation Easements**

Man-Made

Utility Sites

WSSC

Transmission Lines

Transportation

Infrastructure

Metro

State Roads

Federal Highways

Government Ownership

Rustic Roads & Public

Education

Historic Preservation

TDR Exhausted

Rockville Quarry

Regulated Affordable

Housing,

Private Institutional

HOA Common

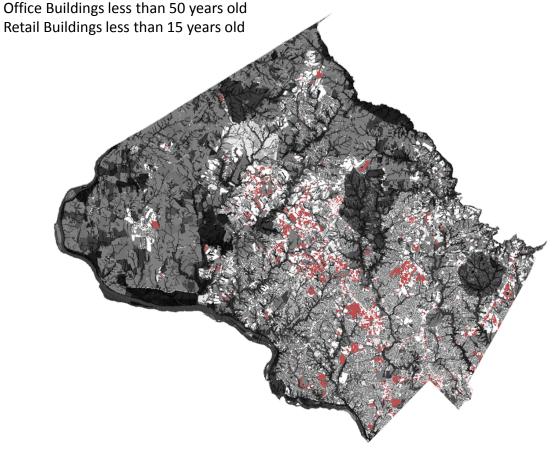
Ownership

Single Family Dwellings

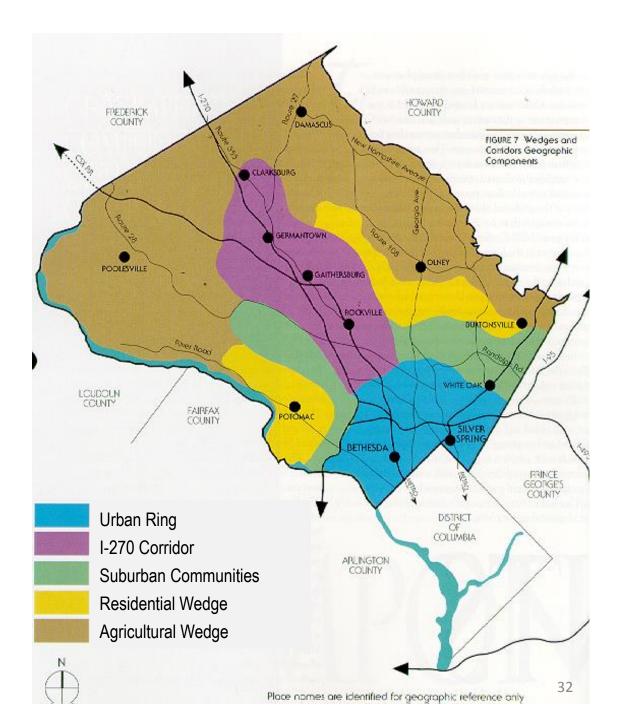
Qualifiers

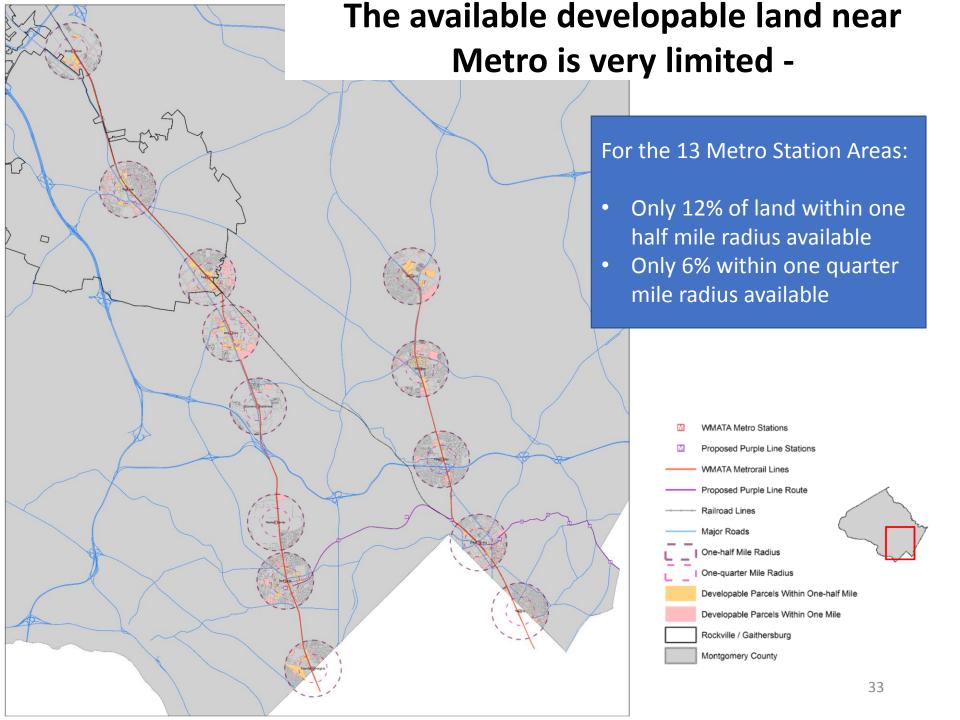
- Multiple owners
- Improvement Value >2 times Land Value

Office Buildings less than 50 years old



Area constrained = 276,000 Acres 85% Area **NOT** constrained = 48,000 Acres 15% Montgomery County's 1964 General Plan: "...On Wedges and Corridors"





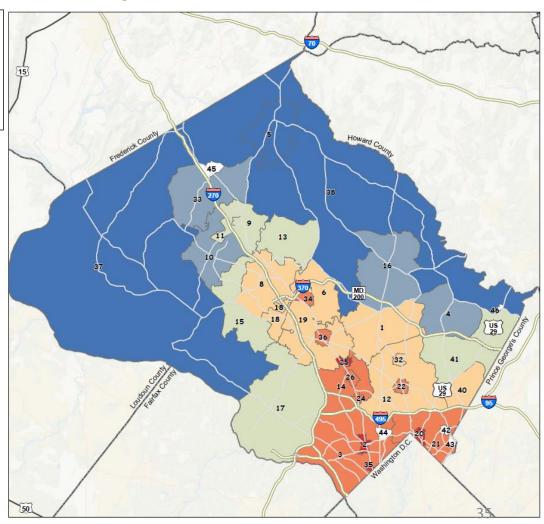
- there are under 1000 developable acres within ½ mile of Metro.

| Developable Acreage within One-half Mile and One-quarter Mile Radius of WMATA MetroRail Station | | | | | | | | |
|---|----------------------|-------------|-------------|---------|----------------|-------------|--|--|
| | One-half Mile Radius | | | | e-quarter Mile | Radius | | |
| | Total | Developable | Percent | Total | Developable | Percent | | |
| Metro Station Name | Acreage | Acreage | Developable | Acreage | Acreage | Developable | | |
| Bethesda | 503 | 83 | 16.5% | 369 | 29 | 7.7% | | |
| Forest Glen | 504 | 26 | 5.1% | 344 | 7 | 2.2% | | |
| Friendship Heights* | 264 | 51 | 19.5% | 206 | 34 | 16.5% | | |
| Glenmont | 503 | 84 | 16.7% | 417 | 41 | 9.7% | | |
| Grosvenor-Strathmore | 507 | 8 | 1.6% | 420 | - | 0.0% | | |
| Medical Center | 502 | 3 | 0.5% | 434 | - | 0.0% | | |
| Rockville | 495 | 66 | 13.2% | 393 | 25 | 6.5% | | |
| Shady Grove | 502 | 35 | 7.0% | 489 | 23 | 4.7% | | |
| Silver Spring* | 418 | 67 | 16.1% | 332 | 19 | 5.6% | | |
| Takoma* | 213 | 23 | 11.0% | 173 | 5 | 3.0% | | |
| Twinbrook | 474 | 88 | 18.5% | 435 | 38 | 8.8% | | |
| Wheaton | 503 | 83 | 16.5% | 392 | 28 | 7.2% | | |
| White Flint | 489 | 92 | 18.9% | 391 | 31 | 8.0% | | |
| Total | 5,878 | 710 | 12.1% | 4,795 | 281 | 5.9% | | |

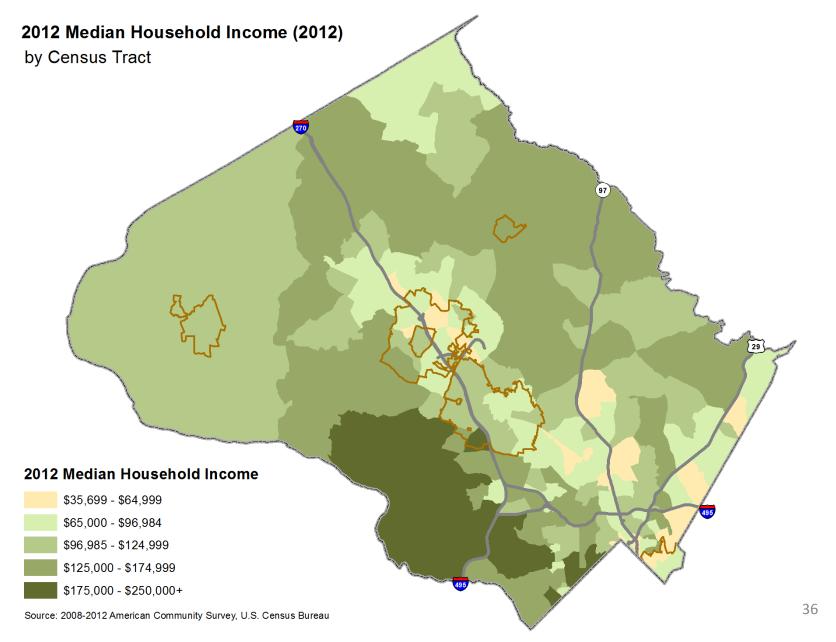
^{*} Metro stations that border Washington, DC. Parcel analysis is limited to parcels within Montgomery County only.

VMT is lower near transit, but varies depending on location in Montgomery County.





The County is segregated by income -



- and by education.

